

## **Title: The Twelve Days of Christmas**

### **Brief Overview:**

In this unit, students will work both independently and cooperatively to demonstrate their acquisition of consumer skills. Activities require students to collect, analyze, compute, and record information as they purchase a variety of gift items. In addition, students will demonstrate problem solving skills pertaining to money equivalents.

### **Link to Standards:**

- **Problem Solving**      Students will develop and apply a variety of strategies to solve problems.
- **Reasoning**              Students will demonstrate their ability to reason mathematically. They will make conjectures and validate their thinking.
- **Number Relationships**      Students will understand, represent, and use numbers in real-world situations.
- **Statistics**                Students will construct and organize tables and charts.

### **Grade/Level:**

Grades 5-6

### **Duration/Length:**

This unit should take three fifty-minute math periods.

### **Prerequisite Knowledge:**

Students should have working knowledge of the following skills:

- Multiplying decimals
- Constructing a chart
- Money skills
- Adding sums

**Objectives:**

Students will:

- work cooperatively in groups.
- select a problem solving strategy to solve a problem.
- create an organized list of gifts.
- choose the fewest number of bills and coins to pay the bill.

**Materials/Resources/Printed Materials:**

- “Emma’s Christmas” by Irene Thrives, Orchard Books, c1988, ISBN#0531057801
- Student booklet including: copy of song, task sheets 1-4, and scoring rubric
- Pencils
- Calculator
- Magic markers
- Chart Paper

**Development/Procedures:****Day 1:**

- Teacher will read “Emma’s Christmas” to the class.
- Teacher will divide the students into groups of four.
- Teacher will provide each student with a copy of the “Twelve Days of Christmas.”
- Teacher will review problem solving strategies.
- Teacher will direct the students to work within their groups to calculate the total number of presents that the prince will have to buy for his true love.
- Students must look for systems and patterns to help them solve the problem.
- Students will create a visual display of how they arrived at their answer. They must be able to explain their answers.
- Students will present their problems to the class and explain their answers.

**Day 2:**

- Teacher will instruct the students to work independently, using the information that they obtained the previous day.
- Students will be given the order form.
- Teacher will explain that the students must record the number of each item the prince needs to order onto the order form.
- Teacher will check the order forms before students begin the next task.
- Students will distribute the price list to the students.
- The students will use the order form and price list to calculate the prince’s total cost.

**Day 3:**

- Teacher will instruct the students to work independently.
- Using the total from the previous day, the students must list the fewest number of bills and coins that the prince should use to pay for the gifts.
- After 10 minutes, the students will “pair/share” for 5 minutes.
- Teacher will lead a class discussion on the many different ways to arrive at the answer.

**Performance Assessment:**

Students will be assessed using a point evaluation system based on the daily activities.

**Day 1:**

- 3 points - contributes very well to the group's solution
- 2 points - applies self moderately to the group's solution
- 1 point - contributes minimally to the group's solution
- 0 points - did nothing to aid in the group's solution

**Day 2:**

(Order Form; see answer sheet)

- 3 points - 12-11 items correct
- 2 points - 10-9 items correct
- 1 point - 8-7 items correct
- 0 points - 6-0 items correct

(Cost Form; see answer sheet)

- 3 points - cost is correct with dollar sign included
- 2 points - cost is correct without dollar sign
- 1 point - minor errors in multiplication or addition

**Day 3:**

(Money Form; see answer sheet)

- 3 points - bills and coins correct
- 2 points - bills and coins add up to correct total but solution is not the least possible bills and coins
- 1 point - minimal errors
- 0 points - more than 3 errors

**Extension/Follow Up:**

- Discounting, sales tax, shipping, and handling charges
- Making bar graphs or pictographs
- Looking for patterns; studying Geometric Number Patterns.

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## The Twelve Days of Christmas

On the first day of Christmas my true love sent to me  
A partridge in a pear tree.

On the second day of Christmas my true love sent to me  
Two turtle doves  
And a partridge in a pear tree.

On the third day of Christmas my true love sent to me  
Three French hens,  
Two turtle doves  
And a partridge in a pear tree.

On the fourth day of Christmas my true love sent to me  
Four calling birds, etc.

On the fifth day of Christmas my true love sent to me  
Five gold rings, etc.

On the sixth day of Christmas my true love sent to me  
Six geese a-laying, etc.

On the seventh day of Christmas my true love sent to me  
Seven swans a-swimming, etc.

On the eighth day of Christmas my true love sent to me  
Eight maids a-milking, etc.

On the ninth day of Christmas my true love sent to me  
Nine ladies dancing, etc.

On the tenth day of Christmas my true love sent to me  
Ten lords a-leaping, etc.

On the eleventh day of Christmas my true love sent to me  
Eleven pipers piping, etc.

On the twelfth day of Christmas my true love sent to me  
Twelve drummers drumming, etc.

## Order Form

\_\_\_\_\_ partridges - in - pear tree

\_\_\_\_\_ turtle doves

\_\_\_\_\_ French hens

\_\_\_\_\_ calling birds

\_\_\_\_\_ gold rings

\_\_\_\_\_ geese - a - laying

\_\_\_\_\_ swans - a - swimming

\_\_\_\_\_ maids - a - milking

\_\_\_\_\_ ladies dancing

\_\_\_\_\_ lords - a - leaping

\_\_\_\_\_ pipers piping

\_\_\_\_\_ drummers drumming

# Royal Mart Cost Form

ITEM	QUANTITY	UNIT PRICE	TOTAL PRICE
Partridges		\$12.95	
Turtle Doves		\$ 7.95	
French Hens		\$ 26.50	
Calling Birds		\$18.00	
Gold Rings		\$47.50	
Geese-a-Laying		\$36.45	
Swans-a-swimming		\$74.70	
Maids-a milking		\$14.25	
Ladies dancing		\$25.00	
Lords-a-leaping		\$40.20	
Pipers piping		\$31.60	
Drummers drumming		\$22.75	

TOTAL \$

## MONEY FORM

\_\_\_\_\_ \$100

\_\_\_\_\_ \$20

\_\_\_\_\_ \$10

\_\_\_\_\_ \$5

\_\_\_\_\_ \$1

\_\_\_\_\_ \$0.25

\_\_\_\_\_ \$0.10

\_\_\_\_\_ \$0.05

\_\_\_\_\_ \$0.01



Order Form--ANSWERS

12 partridges - in - pear tree

22 turtle doves

30 French hens

36 calling birds

40 gold rings

42 geese - a - laying

42 swans - a - swimming

40 maids - a - milking

36 ladies dancing

30 lords - a - leaping

22 pipers piping

12 drummers drumming

Total = 364

Royal Mart Cost Form--ANSWERS

ITEM	QUANTITY	UNIT PRICE	TOTAL PRICE
Partridges	12	\$12.95	\$155.40
Turtle Doves	22	\$ 7.95	\$174.90
French Hens	30	\$ 26.50	\$795.00
Calling Birds	36	\$18.00	\$648.00
Gold Rings	40	\$47.50	\$1900.00
Geese-a-Laying	42	\$36.45	\$1530.90
Swans-a-swimming	42	\$74.70	\$3137.40
Maids-a milking	40	\$14.25	\$570.00
Ladies dancing	36	\$25.00	\$900.00
Lords-a-leaping	30	\$40.20	\$1206.00
Pipers piping	22	\$31.60	\$695.20
Drummers drumming	12	\$22.75	\$273.00

TOTAL

\$11,945.80

## MONEY FORM--ANSWERS

119 \$100

2 \$20

0 \$10

1 \$5

0 \$1

3 \$0.25

0 \$0.10

1 \$0.05

0 \$0.01